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NRO REVIEW COMPLETED

6 September 1963

MEMORANDUM FOR : Deputy Director of Central Intelligence

SUBJECT : Contractor Proposal--Lockheed Aircraft Corporation
for a Newly Designed U-2 Aircraft

REFERENCE : Memo for DDCI from DAD/OSA, Dated 10 June 1963;
Subject: "Procurement of Additional U-2 Aircraft"

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1. In connection with the forthcoming visit of Mr. Clarence L. Johnson of Lockheed Aircraft Corporation, I thought you should be aware that he is keenly interested in surfacing to you and the Director an engineering proposal for extensive modifications to the U-2 aircraft in a version which he refers to as the "U-2L". (Kelly states that the "L" is shorthand for "long".) There are many facets to this proposal, which I would like to summarize briefly for you. To begin with earlier this year, when it became apparent that the dwindling inventory of U-2's (34 in all) might be insufficient to support our world-wide commitments in CIA on top of SAC's heavy schedule in Cuba, Kelly and I discussed the possible practicability of resuming U-2 production on a limited basis to augment the present inventory. At that time we were talking on the order of possibly ten additional airplanes. This subject was covered in the reference cited above, and at a meeting of the Joint Chiefs of Staff, presided over by the Secretary of Defense at which you were present, Mr. McCone mentioned this, but it was brushed aside by Mr. McNamara with the statement that we should "look toward the next generation of reconnaissance aircraft" as the probable substitute for any renewed effort in the U-2 field.

2. Since that time, however, two things have occurred: (1) In response to Mr. McNamara's request at the meeting referred to above, Air Force has undertaken seriously to consider a proposal to upgrade a number (not less than

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six nor more than twenty) of SAC's J-57 U-2's to the J-75 configuration at a cost running into as much as \$

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Spurred by these two developments, Kelly has turned seriously to the question of a modified version of the U-2 and is prepared to discuss this directly with you and the DCI next week. Salient features of his proposal are as follows:

a. The U-2L would be six feet longer than the present bird. The additional length would furnish room for a pressurized equipment bay aft of the present camera bay which is also pressurized, where the various ELINT sub-systems would be collected in a central location. At present they are distributed throughout the airplane in nooks and crannies which are not pressurized and where the ambient environment may adversely affect their performance. The added length also would have the advantage of providing a wider margin of CG travel in the aircraft. This center of gravity matter is fairly delicately balanced in the U-2 at present, and the new version would increase its tolerance by a factor of three.

b. Kelly states that the U-2L would also feature the capability to refuel inflight virtually the entire tankage of the bird. At present inflight refueling is limited to approximately 800 gallons in the main tanks out of the maximum fuel load of 1,545 gallons. Under the new scheme refueling would be possible for approximately 1,400 gallons, thus extending the range profile almost indefinitely.

c. The U-2L would also incorporate, hopefully, those modifications being engineered for the carrier version which would decrease materially the landing roll-out distance (about 30 percent), furnish a much better approach angle of attack and a higher sink rate needed to effect arrestment on carrier decks. This would be accomplished by a system of letter slot flaps and mechanical spoilers.

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d. The "Super U-2" would also have a much improved autopilot and sextant, as well as an inertial navigation system, presumably based upon experience gained in the OXCART Program with Minneapolis-Honeywell.

3. Kelly states that he also feels it may be possible through "cleaning up the aircraft" by reducing drag to regain an unspecified amount of range which has been lost throughout the years by changes of one sort or another. It is also possible that with the new version there may be a modest increase in altitude. The J-75 engine would, of course, be standard in this version. While cost figures were not available to me at the time of my last discussion with Kelly on this subject on 27 August, he indicated that a probable figure for the aircraft would run to approximately [redacted] each against an order of twenty-five, minus engines. He claims that it is uneconomical to produce less than twenty-five. According to his plan, he could produce the first aircraft in approximately seven months, with additional ones to follow at roughly three-week intervals.

4. Kelly intends to discuss the U-2L proposal not only with us, but with General LeMay, I believe, and with Vice Admiral John S. Thach, DCNO for Air, under the hoped-for assumption that between Air Force, Navy, and ourselves, there might be enough momentum to split an order of twenty-five aircraft. Dr. McMillan will, of course, also hear from Kelly on this subject.

5. I would recommend that you listen seriously to Kelly on this subject, not that we have planned for such an eventuality in the NRO budget for this year nor because I have any general misgivings about the eventual operational readiness of the OXCART vehicle. I do feel strongly, however, that present U-2 assets are inadequate to minimum requirements of the defense establishment and the intelligence community, and I am also of the view that the U-2 can operate, and will continue to do so, long after OXCART is operational, simply because it offers a greater possibility for maneuverability and flexibility within confined areas such as Southeast Asia.

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cc: DD/S&T

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